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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/569,542

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Klaus Griesbach

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YOUNG & BASILE, P.C.

3001 WEST BIG BEAVER ROAD

SUITE 624

TROY, MI 48084

EXAMINER

COLEMAN, KEITH A

ART UNIT

PAPER NUMBER

3747

NOTIFICATION DATE

DELIVERY MODE

05/29/2008

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/569,542	Applicant(s) GRIESBACH ET AL.	
	Examiner KEITH COLEMAN	Art Unit 3747	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1 and 3-8 is/are pending in the application.
4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3-8 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date ____. | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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4. Claims 1 and 3-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Iida et al. (US Patent No. 6,655,026) in view of Hayden, Sr. (US Patent No. 4,258,084).

5. With regards to claims 1, 7, and 8, Iida et al. discloses a connecting rod and generally any inner surfaces of a bearing into which a piston pin and a crankpin fit are strengthened by shot-peening the surfaces (Col. 1, Lines 6-11). It is deemed that since Iida is concerned with the inner surfaces of bearings into which a piston pin would connect that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the inner surfaces of the piston head pinhole of Iida et al. with indentations as well to strengthen the surfaces. However, Iida et al. does not disclose the shot peening indentations as being circular. Hayden discloses surfaces (11) shot peened so as to create crater-shaped circular indentations (20) and to provide the movable surfaces with good lubricant retention (Col. 2, Lines 5-15) or said crater-shaped indentations configured to carry oil and to prevent the oil from flowing away during a change in contact (Col. 2, Lines 5-15) and the pin hole surfaces subjected to residual compressive stress through cold working during shot peening the pin hole surfaces with the blasting medium (Col. 2, Lines 6-13, Figures 1-2). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention made to have made the shot peened indentations of Iida et al. circular so as to provide a piston head pinhole with a stronger inner pinhole surface with good lubricant retention.

Both patents are analogous art because they both disclose methods of improving surfaces of engine components.

With regards to the limitation of introducing indentations at room temperature (i.e. cold-working), because the purpose of shot-peening is to create residual stresses on a metal surface and is convenient to perform at room-temperature and Iida explicitly states, "The quenching depth according to the carburizing and quenching processing, that is, the depth to which the compressive residual stress is formed, varies according to the condition of the carburizing and quenching processing (temperature, carbon concentration, processing time, etc.)" (Col. 2, Lines 14-19), it would have been obvious to one having ordinary skill in the art at the time the invention was made to know that cold-hardening processes such as shot peening can be performed at room temperature.

With regards to claims 3 and 5, Hayden discloses wherein the indentations can be introduced into a surface by a blasting medium which has definite grain (Col. 2, Lines 15-20). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have made the shot peened indentations of Iida et al. to have a definite grain so as to provide a large number of depressions as taught by Hayden.

With regards to claim 4, both Iida et al. and Hayden disclose a blasting medium which is a shot-peening medium (Col. 2, Lines 14-27 from Iida et al., Abstract from Hayden). It should be noted that "peened from glass spheres" as cited in Hayden is interpreted as shot-peening.

With regards to claim 6, Hayden discloses shot penning the pin hole surfaces with the blasting medium at a velocity so that the blasting medium creates the indentations upon impact without penetrating the material of the pin hole surfaces (Col. 2, Lines 6-13, Figures 1-2).

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Both Hayes, US Patent No. 5,370,093 and Billimack, US Patent No. 6,550,138. show the current state of the art dealing with shot-peening techniques and improving engine components.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH COLEMAN whose telephone number is (571)270-3516. The examiner can normally be reached on 5:30-4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Cronin can be reached on (571)272-4536. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

KAC

/K. C./

Examiner, Art Unit 3747

/Stephen K. Cronin/

Supervisory Patent Examiner, Art Unit 3747